



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/675,635

09/30/2003

Jae-Goo Choi

1235-006

6064

66547 7590 06/07/2010

THE FARRELL LAW FIRM, LLP

290 Broadhollow Road

Suite 210E

Melville, NY 11747

EXAMINER

ALAM, FAYYAZ

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

06/07/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/675,635	Applicant(s) CHOI ET AL.	
	Examiner FAYYAZ ALAM	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to applicant's amendment/arguments filed on 4/6/2010.

This action is made FINAL.

Response to Arguments

Applicant's arguments filed 4/6/2010 have been fully considered but they are not persuasive.

Applicant argues that neither Bick nor Miyajima, alone or in combination, teaches "a plurality of key buttons being integrally formed with each other and being positioned such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel with no spacing in between the top planar surfaces of adjacent keys among the plurality of key buttons," it is respectfully submitted that independent Claim 1 is patentably distinct from Bick in view of Miyajima, and it is respectfully requested that the rejection be withdrawn.

Examiner respectfully disagrees.

Miyajima clearly discloses according to its abstract and specification col. 5, lines 1-21, a two-layer structure, where the touch panel formed to be elastic is laid over the **top surface** of the entry section 36 and membrane switch with tactile feedback is laid beneath the touch panel switch 37. Furthermore, col. 5, lines 22-38 disclose that 37A-37N are markings for the key button input and are simply raised, but otherwise, the top

Art Unit: 2618

surface is substantially planar and is a single surface with no spacing between keys.

The "keys" underneath the touch panel membrane.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bick (UK Application # GB 2,367,530)** in view of **Miyajima et al. (USPN 6,518,958)**.

Consider **claim 1**, Bick discloses a keypad assembly for mobile handset (read as portable radiotelephone) comprising (see figure 3):

A flexible substrate (31) (read as printed circuit board) having a plurality of metal domes (32);

Art Unit: 2618

A silicone rubber (17) (read as keypad rubber) placed on the flexible substrate (31) (read as printed circuit board) have raised surface with numerals aligned with the positions corresponding to the metal domes (32) (see figure 3, element 18; figure 4; pg. 4, lines 9 - 10);

A sensing means (19) disposed on the silicone rubber (17) (read as keypad rubber; see figure 3); and

A keymat (17) (read as key button part) disposed on the sensing means, whereby a touch screen function is selectively activated from the keypad interface (see figure 2) when user slides their finger over surface of the keymat (17) (read as key button part), the key button part integrating a keypad and touch screen panel and whereby, keypad (7) can **independently** (read as "...one of a..."; see pg. 4, lines 18 - 19) operate as a conventional keypad (read as key button function) and a touch pointing device (read as touch screen function) according to an inherent operation of selecting an input mode (read as a touch screen function since Bick uses the sensing means or a key button function electrically contacting the metal domes exclusively according to a predetermined input mode of the radiotelephone; see pg. 4, line 30 - pg. 5, line 5).

Bick further discloses keypad 7 (read as key button part) functioning in one of a keypad mode and a touch screen panel mode (see pg. 4, lines 18-19) and a plurality of keys (read as an input mode shift key) arranged to actuate a respective switch (read as shifting) from one of the keypad mode and the touch screen panel mode to the other mode (see pg. 1, lines 22-25; pg. 2, lines 19-21). Bick also discloses a key button part having a plurality of key buttons being integrally formed with each other and being

Art Unit: 2618

position with spacing in between for functioning (see fig. 1; where the buttons are integrally formed but with spacing).

However, Bick does not explicitly disclose a power supply unit supplying power to the keypad and cutting off power to the touch screen panel in the keypad mode and an input mode shift key shifting from one of the keypad mode and the touch screen panel mode to the other mode and a plurality of key buttons being positioned with no spacing.

Nevertheless, Bick discloses a plurality of keys to actuate the shifting of user input mode, i.e., the keypad mode and touch screen mode, and shifting from one mode to the other mode.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to slightly modify the teachings of Bick in order to have a dedicated key for input mode shifting and conserve power by cutting off the power supply to one of the input modes.

However, Bick does not disclose a plurality of key buttons being positioned with no spacing between the top planar surfaces of adjacent keys among the plurality of key buttons such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel.

In the related field of endeavor, Miyajima discloses a plurality of key buttons being positioned with no spacing (see abstract; figs. 1-2,6-8; where keys are close together and without spacing where the finger is slid over the same area as the key button part).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Bick with the teachings of Miyajima in order to make the key button part of a mobile phone more compact and thus reduce the overall size of the phone.

Consider **claim 2** as applied to claim 1, Bick discloses sensing means is a capacitive sensor (see pg. 3, lines 26 - 28).

Consider **claim 3** as applied to claim 1, Bick discloses keymat (17) (read as key button part) is attached to optical adhesive layer (27) (read as film sheet) which is attached to the upper surface of the sensing means (19), the optical adhesive layer (27) (read as film sheet) by way of keymat (17) that has numbers printed on it (see figure 3; figure 4; pgs. 4 - 5, lines 31 - 33 and 1 - 3).

Consider **claim 7**, Bick discloses a method of inputting data to a portable radiotelephone in one of a keypad input mode and a touch input screen panel mode, the portable radiotelephone having a keypad (7) as a conventional keypad or as a touch sensitive pointing device (read as physically integrating a touch screen panel see pg. 4, lines 18 - 19), comprising the steps of:

Determining whether or not user slides their finger over the surface (read as input mode shift key) of the keymat (17), since the keypad (7) is operable to function **independently** as a touch sensitive pointing device or a conventional keypad it would inherently have a step to determine which mode is actuated (see pg. 4, lines 18 - 19; pg. 5, lines 4 - 5);

The above stated sliding action (read as input mode shift key) shifts the mobile device from keypad input mode to touch screen mode, where, the **independent** (see pg. 4, lines 18 - 19) functionality feature of the keypad (7) would inherently yield such a step and in addition yield an input mode shift key (see pg. 5, lines 3 - 16; pg. 4, lines 18 - 19); and

The keypad (7) can operate in the keypad mode either **independently** or simultaneously as a touch sensitive pointing device, therefore, it would be obvious to cut off a driving power supplied to the conventional keypad, and supplying the driving power to the touch screen panel while the keypad (7) is in touch sensitive mode and operating **independently** (see pg. 4, lines 18 - 19).

Bick further discloses keypad 7 (read as key button part) functioning in one of a keypad mode and a touch screen panel mode (see pg. 4, lines 18-19) and a plurality of keys (read as an input mode shift key) arranged to actuate a respective switch (read as shifting) from one of the keypad mode and the touch screen panel mode to the other mode (see pg. 1, lines 22-25; pg. 2, lines 19-21). Bick also discloses a key button part having a plurality of key buttons being integrally formed with each other and being position with spacing in between for functioning (see fig. 1; where the buttons are integrally formed but with spacing).

However, Bick does not explicitly disclose a power supply unit supplying power to the keypad and cutting off power to the touch screen panel in the keypad mode and an input mode shift key shifting from one of the keypad mode and the touch screen panel mode to the other mode and a plurality of key buttons being positioned with no spacing.

Nevertheless, Bick discloses a plurality of keys to actuate the shifting of user input mode, i.e., the keypad mode and touch screen mode, and shifting from one mode to the other mode.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to slightly modify the teachings of Bick in order to have a dedicated key for input mode shifting and conserve power by cutting off the power supply to one of the input modes.

However, Bick does not disclose a plurality of key buttons being positioned with no spacing between the top planar surfaces of adjacent keys among the plurality of key buttons such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel.

In the related field of endeavor, Miyajima discloses a plurality of key buttons being positioned with no spacing (see abstract; figs. 1-2,6-8; where keys are close together and without spacing where the finger is slid over the same area as the key button part).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Bick with the teachings of Miyajima in order to make the key button part of a mobile phone more compact and thus reduce the overall size of the phone.

Consider **claim 4**, Bick discloses mobile communication device comprising: an input unit integrating a keypad and a touch panel functioning in one of a keypad mode and touch screen panel mode (see figs. 1-6 and associated text);

A controller (15) (read as control unit) for generating control signal to operate the input unit exclusively as one of the touch panel and the keypad according to an input mode predetermined by a user (see figs. 1-6 and associated text).

Bick further discloses a keypad (7) (read as input unit) which operates as a conventional keypad and **independently** (read as exclusively) as a touch sensitive pointing device (read as touch screen panel and physically integrates touch screen panel) (see pg. 4, lines 18 - 19, figs. 1 - 6).

Bick also discloses keypad 7 (read as integrating input unit) functioning in one of a keypad mode and a touch screen panel mode (see pg. 4, lines 18-19) and a plurality of keys (read as an input mode shift key) arranged to actuate a respective switch (read as shifting) from one of the keypad mode and the touch screen panel mode to the other mode (see pg. 1, lines 22-25; pg. 2, lines 19-21). Bick also discloses a key button part having a plurality of key buttons being integrally formed with each other and being position with spacing in between for functioning (see fig. 1; where the buttons are integrally formed but with spacing).

However, Bick does not explicitly disclose a power supply unit supplying power to the keypad and cutting off power to the touch screen panel in the keypad mode and an input mode shift key shifting from one of the keypad mode and the touch screen panel mode to the other mode and a plurality of key buttons being positioned with no spacing.

Nevertheless, Bick discloses a plurality of keys to actuate the shifting of user input mode, i.e., the keypad mode and touch screen mode, and shifting from one mode to the other mode.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to slightly modify the teachings of Bick in order to have a dedicated key for input mode shifting and conserve power by cutting off the power supply to one of the input modes.

However, Bick does not disclose a plurality of key buttons being positioned with no spacing between the top planar surfaces of adjacent keys among the plurality of key buttons such that top planar surfaces of the plurality of key buttons form a single, substantially planar touch screen panel.

In the related field of endeavor, Miyajima discloses a plurality of key buttons being positioned with no spacing (see abstract; figs. 1-2,6-8; where keys are close together and without spacing where the finger is slid over the same area as the key button part).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Bick with the teachings of Miyajima in order to make the key button part of a mobile phone more compact and thus reduce the overall size of the phone.

Consider **claim 5** as applied to claim 4, Bick discloses a character recognition unit for converting a coordinate value into a character code when the input unit functions as the touch screen panel, the coordinate value being produced from the input unit by a user's contacting an upper surface of the touch screen panel.

Consider **claim 6** as applied to claim 5, Bick discloses a display unit for displaying a character corresponding to the character code from the character recognition unit (see pg. 5, lines 4 - 5 and figs. 1-6 and associated text)..

Consider **claim 8** as applied to claim 7, Bick discloses determining whether or not the input mode shift key is inputted; shifting the input mode from the touch screen input mode to the keypad input mode when the input mode shift key is inputted; and cutting off the driving power supplied to the touch screen panel, and supplying the driving power to the keypad (see pg. 5, lines 4 - 5 and figs. 1-6 and associated text).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Fayyaz Alam whose telephone number is (571) 270-1102. The Examiner can normally be reached on Monday-Friday from 9:30am to 7:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Art Unit: 2618

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Fayyaz Alam

May 25, 2010

/Edward Urban/
Supervisory Patent Examiner, Art Unit 2618